

In re the Application of:

Takeshi KUBO, et al.

Serial No.: Continuation of 09/084,323

Filed: April 16, 2001

Group Art Unit: unassigned

Examiner: unassigned

For: **AUTHENTICATION APPARATUS, USER AUTHENTICATION METHOD,
USER AUTHENTICATION CARD AND STORAGE**

Assistant Commissioner of Patents
Washington, D.C. 20231

Sir:

This is responsive to the continuation application filed on April 16, 2001. Before examination of the above-identified application, please amend the application as follows:

The following amendments and remarks are respectfully submitted.

REMARKS

The above-referenced application filed on April 16, 2001 is a continuation application under 37 C.F.R. § 1.53(b) of and claims priority under 35 U.S.C. § 120 to the parent application having U.S. Serial No. 09/084,323 filed on May 26, 1998, now pending. In addition, foreign priority benefit under 35 U.S.C. § 119 is claimed to Japanese Application No. 9-264839, filed September 10, 1997 and Japanese Application No. 10-94592, filed April

7, 1998. A certified copy of the priority document was filed in the parent application U.S.

Serial No. 09/348,166 with Examiner Jeffrey S. Leaning in Group/Art unit No. 2131.

Claims 1- 75 are pending and under consideration.

REJECTION UNDER 35 U.S.C. § 102:

On page 2 of an Office Action issued in the parent case having U.S. Serial No. 09/084,323 of the above-identified application, former independent claims 1, 17, and 37 in the parent case were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 5,970,146 to McCall, et al. ("McCall"). Specifically, the Examiner viewed that McCall is directed to a touch screen and a user may use his or her finger to specify a plurality of discontinuous coordinates by simply typing. Reconsideration of the prior rejection is requested.

More particularly, on page 3 of the Office Action, claim 1 and related dependent claims were rejected as being anticipated by McCall. The Examiner refers to column 4, lines 1-43, of McCall where a computer system 20 operates in an encrypted mode. Specifically, in lines 1-20 of McCall, a CAT 24 is coupled to an ATM card or credit card reader (not shown). The CAT 24 is also connected to a credit card network through a POS system 25 and a phone line 24. Whenever a user passes his card through the card reader and the card reader "reads" information **magnetically encoded** thereon such as the user's bank and account number, the CAT 24 sends an encryption request to a system controller 16 through a bus 40. Upon receipt

of the encryption request, the system controller 16 notifies a touch screen computer 22 that a card has been read. In contrast, the touch sensor of claim 1 detects **"a plurality of coordinates, input via a specifying member which specifies a plurality of discontinuous different coordinates,"** emphasis added. McCall does not teach or suggest that the card reader reads a plurality of coordinates. Further, McCall does not teach or suggest that the ATM card or credit card **specify a plurality of discontinuous different coordinates** as recited in claim 1, rather, the information in the cards is **magnetically encoded** thereon.

Further, referring to lines 21-43 of McCall, in response to being notified that a card has been read, the touch screen computer 22 sends commands to the graphics display 26 to display a video keypad image 26a. At the same time, the system controller 16 sends a video keypad map 12a (which corresponds with the video keypad image 26a) to the system controller 16 through the RS232 bus to receive the user's PIN. The user then enters his PIN by depressing portions of the touch screen 12 corresponding to the video keypad image 26a. The touch screen controller 14 returns touch screen coordinates for the un-encrypted PIN to the system controller 16, which interprets them using the video keypad map to produce the un-encrypted PIN.

However, McCall fails to teach or suggest the specifying member, which specifies a plurality of discontinuous different coordinates as recited in claim 1. "To anticipate, a prior art reference must disclose each and every element of a claimed invention, or their equivalents, and the elements must function in substantially the same way to produce substantially the same result." There must be "... identity of structure, purpose and result ... to make out anticipation within the

meaning of 35 U.S.C. §102." See Tate Engineering, Inc. v. U.S., 477 F.2d 1336, 175 U.S.P.Q. 115,119(Ct.Cl.1972).

Column 4, lines 1-43, of McCall fails to teach or suggest all the claim limitations of claim 1. McCall merely discloses a ten-key display on a touch screen, and does not use a specifying member in combination with the touch screen as recited in claim 1. Instead, in McCall, the user inputs data by touching specific portions of the touch screen. That is, the touch screen computer 22 sends video data to the display 26, prompting the user to supply input data directly, by touching specific portions of the touch screen 12. The specific portions of the touch screen 12 are not provided via a specifying member including a plurality of discontinuous different coordinates as recited in claim 1. Further, because claim 13 (former independent claim 17) is somewhat related to claim 1, Applicants hereby incorporate the arguments presented supporting the patentability of claim 1 to claim 13. Therefore, claims 1 and 13 and related dependent claims are allowable.

Claim 30 (former independent claim 37) recites "a computer readable storage medium storing a program to make a computer perform an authentication by: detecting a plurality of coordinates, input via a specifying member which specifies a plurality of discontinuous different coordinates." Applicants incorporate herein the arguments presented supporting the patentability of claim 1 to support the patentability of claim 30. Accordingly, claims 1, 13, and 30 and related dependent claims are patentable.

REJECTION UNDER 35 U.S.C. §103:

On page 4 of the Office Action issued in the parent case, former claims 2, 18, and 38 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,656,662 to Filliman, et al. ("Filliman"). According to the Examiner, Filliman teaches a CRT screen, which corresponds to the "detecting means." Coordinates are input to a coordinate detector, see column 7, lines 30-62. According to the Examiner, the user's hand acts as the "member." The Examiner also took official notice that identification is used for authentication purposes such as for financial transactions. Reconsideration of the prior rejection is requested.

The Examiner focuses on the abstract and column 7, lines 30-62, of Filliman as teaching the claim limitations recited in claim 2, claim 14 (former claim 18), and claim 31 (former claim 38). Filliman is directed to a method and apparatus for personal identification employ the combination of a CRT and a light pen for the generation of a signature or other identification indicia by movement of the light pen on the CRT screen. Positional information is captured from the screen by the light pen and is compressed and collected to form a signature or other indicia representation, which can be stored and subsequently used as a reference for identification purposes.

In Filliman column 7, lines 30-62, describes a process to compress data from average values for each burst, as represented by block 88. The compression algorithm compares the row and column information for the current point with the row and column information for the previous point, and generates a series of short vectors between the points. The series of 3-bit

vector orientations define the path of the light pen 14 across the screen of the CRT 12 with a relatively small amount of data. Shortening of the vector length improves the accuracy of the trace of the path. As indicated in block 90, the vector information may, if desired, be fed back to the address inputs of the CRT screen for display of the signature or other identifying indicia on the CRT screen as said information is generated by movement of the light pen across the screen.

In contrast, claim 2 recites "a touch sensor detecting a plurality of coordinates, input by a pointing device, via a **specifying member which specifies a plurality of discontinuous different coordinates,**" emphasis added. Filliman does not teach or suggest the specifying member, which specifies a plurality of discontinuous different coordinates as recited in claim 2. Rather, Filliman employs the combination of a CRT and a light pen for the generation of signature or other identification. The concept of detecting a plurality of discontinuous different coordinates, via the specifying member of claim 2 is not even broached in Filliman.

Claim 14 recites "a detecting step detecting a plurality of coordinates, input by a pointing device via a specifying member which specifies a plurality of discontinuous different coordinates." Claim 31 recites a computer readable storage medium "detecting a plurality of coordinates, input by a pen, via a specifying member which specifies a plurality of discontinuous different coordinates." As previously set forth, Filliman fails to teach or suggest detecting a plurality of coordinates via the specifying member which specifies a plurality of discontinuous different coordinates as recited in claims 18 and 38. Thus, claims 2, 14, and 31 are patentable in view of Filliman.

On pages 4, 6, 7, 8, and 9 of the Office Action of the parent application the Examiner has, in part, based the rejections on Official Notice. Official Notice can properly be taken of things or features that are notoriously well known. It is submitted that the allegations that "identification is used for authentication purposes such as for financial transaction," as stated on page 4 of the Office Action, that "the practice of 'timing out' authentication procedures," as stated on page 6, etc. is notoriously well known is incorrect and the allegations are based on the Examiner's personal knowledge and not based on prior art. The Examiner is requested to support the allegation **with prior art or an affidavit** under as required 37 CFR § 1.107(b). Otherwise, the rejection is without a proper foundation and should be withdrawn which is requested.

On page 5 of the Office Action of the parent application, the Examiner rejected former claims 5, 10, 12-15, 21, 26, 28-31, 41, 46, and 48-51 in parent case (now claims 4, 7, 8-11, 15, 20, 21-24, 34, 37, and 38-41) under 35 U.S.C. §103(a) as being unpatentable over McCall. Claims 4, 7, 8-11, which depend on claim 1 are allowable for the structures recited therein and for the reasons set forth in claim 1. In view of the Examiner taking official notice of the practice of "timing out" authentication procedures, even assuming, arguendo, that the teachings of McCall and the Examiner's official notice are combined, such a combination would not teach or suggest "a touch sensor **detecting a plurality of coordinates**, input via a **specifying member** which **specifies a plurality of discontinuous different coordinates**" as recited in claim 1. Thus, claims 4, 7, and 8-11 are allowable. If the Examiner wishes to maintain the official notice, the Examiner

is requested to support the allegation **with prior art or an affidavit** under as required 37 CFR § 1.107(b). Otherwise, the rejection is without a proper foundation and should be withdrawn which is requested.

Further, claims 15, 20, and 21-24 that depend on claim 13 are allowable for the structures recited therein and for the reasons set forth in claim 13. Similarly, claims 34, 37, and 38-41 that depend on claim 30 are allowable for the structures recited therein and for the reasons set forth in claim 37. McCall clearly shows that the user must supply the input data by touching specific portions of the touch screen 12, column 3, lines 56-60. However, in claims 1, 13, and 30, detecting coordinates input from a touch sensor is not specifically limited by the user's finger supplying the coordinates input.

On page 7 of the Office Action of the parent application, former claims 33-36 in the parent case (now claims 26- 29) were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 3,304,411 to Blodgett ("Blodgett"). This rejection is traversed and reconsideration is requested.

Blodgett is directed to a punch-card reader for reading positions of punched holes in punched cards. As noted by the Examiner, Blodgett fails to teach or suggest a card having perforated parts, wherein each of the perforated parts is removable by punching a hole through which an input can be made by a pointing device to the coordinate detector. As a result, the Examiner takes official notice that perforations on paper-like material render the material easily punched. In contrast, in claim 33, the plurality of perforated parts in the card allows the user to

easily form the holes at arbitrary perforated parts, without the need to use a special punching machine. Thus, claim 33 and related dependent claims are allowable.

On page 8 of the Office Action of the parent case, former claims 1, 3, 7, 17, 19, 23, 37, 39, and 43 of the parent case (now claims 1, 3, 6, 13, 17, 19, 30, 32, and 36) were rejected under 35 U.S.C. §103(a) as being unpatentable over Blodgett in view of U.S. Patent No. 3,849,631 to Merlino, Jr. et al. ("Merlino"). Reconsideration is requested. Blodgett is directed to a punch-card reader for reading positions of punched holes in punched-cards. The punched-cards require a special machine for punching holes therein. Blodgett fails to teach or suggest the touch sensor and the comparing unit recited in claim 1. Further, Blodgett fails to teach or suggest "...detecting a plurality of coordinates, input via a specifying member which specifies a plurality of discontinuous different coordinates," as recited in claims 1, 13, and 30.

Merlino is directed to a card reader capable of automatically reading coded information from cards, the information being encoded in information fields that may vary in the length of columns and rows from card to card, such fields being referenced with respect to two predetermined orthogonal edges on each card. See column 2, lines 35-60. When a card is being advanced through the reader past a reading station, a circuit that is triggered by a column count wheel generates a signal each time that a column of information is in position to be read. Merlino fails to teach or suggest the touch sensor and detecting a plurality of coordinates as recited in claims 1, 17, and 37. Thus, even assuming, arguendo, that the teachings of Blodgett, Merlino, and the Examiner's taking official notice were combined, the combination of all elements for the

authentication apparatus in claim 1, 13, and 30 and dependent claims would not be provided.

The Examiner concedes that Blodgett fails to teach a comparison for purposes of authentication. The Examiner also asserts that “it would have been obvious for one of ordinary skill in the art to modify the invention of Blodgett to send the electronic signals to a computer for the purposes of comparison for identification authentication because of the expedient of using tokens for authentication.” The Examiner provides no suggestion or motivation from any reference to provide for a touch sensor detecting a plurality of coordinates, input via a specifying member which specifies a plurality of discontinuous different coordinates as claimed in the present invention. The Federal Circuit has cautioned that an Examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and **with no knowledge of the claimed invention**, would select the elements from the cited prior art references for combination in the manner claimed. In re Rouffet, 47 USPQ2d 1453, 1458 (Fed. Cir. 1998).

On page 10 of the Office Action of the parent application, the Examiner challenges the Applicants to state a substantive difference between the covered apparatuses of claims 43 and 50. Claim 43 is directed to an authentication apparatus comprising a **touch sensor** detecting a plurality of coordinates, input via a specifying member which specifies a plurality of discontinuous different coordinates, a comparing unit, and an authentication unit. In contrast, claim 50 is directed to an authentication apparatus comprising a **detecting unit** detecting a plurality of coordinates, input from a touch sensor, via a via a specifying member which specifies a plurality of discontinuous different coordinates, a comparing unit, and an authentication unit. Applicants respectfully assert

that both claims are structurally and functionally substantially distinct. It would be our position that claims 43 and 50 differ from one another and a person of ordinary skill in the art should have no difficulty in understanding the scope of protection. Further, the court in In re Wakefield, 422 F.2d 897, 902, 164 USPQ 636, 639 (CCPA 1970) has held that although “examination of [many] claims in a single application may be tedious work, but this is no reason for saying that the invention is obscured by the large number of claims. We note that the claims were clear enough for the examiner to apply references against all of them in his first action.”

On page 11, former claims 65-69, 72, 73, 75-89, and 93-101 in the parent case (now claims 43-47, 50, 51, 52-66, and 67-75) were rejected under 35 U.S.C. §103(a) as being unpatentable over McCall. This rejection is traversed and reconsideration is requested. Claim 43 recites “an authentication apparatus comprising: a touch sensor detecting a plurality of coordinates, input via a specifying member which specifies a plurality of discontinuous different coordinates; a comparing unit comparing **an order** of the plurality of detected coordinates and **an order** of a plurality of registered coordinates and outputting a compared result of the orders; and an authentication unit carrying out an authentication based on the compared result,” emphasis added. Applicants incorporate the teachings of McCall and arguments supporting the patentability of claim 1 in view of McCall to support the patentability of claim 43 and related dependent claims. Further, the Examiner overlooks and, thus, fails to address the functional limitations of the structural elements in claim 43. Specifically, McCall does not teach or suggest a comparing unit comparing **an order** of the plurality of the detected coordinates and outputting a compared result

of the orders. The teachings and arguments presented supporting the patentability of claim 1, in view of McCall, are incorporated herein supporting the patentability of claims 44 and 45.

Furthermore, McCall does not teach or suggest "a detecting unit detecting a plurality of coordinates, input from a touch sensor, via a specifying member which specifies a plurality of discontinuous different coordinates" as recited in claim 46. Rather, as previously set forth, McCall teaches a touch screen computer 22 sending commands to a graphics display 26 to display a video keypad image 26a. Applicants herein incorporate the arguments presented supporting the patentability of claim 1. Similarly, McCall fails to teach or suggest "a detecting unit detecting a plurality of coordinates, input from a touch sensor by a pointing device, via a specifying member which specifies a plurality of discontinuous different coordinates," as recited in claim 47. Referring to claims 50 and 54, Applicants herein incorporate the arguments presented supporting the patentability of claims 46 and 47.

Referring to claim 61 and 62, Applicants herein incorporate the arguments supporting the patentability of claim 46. Further, McCall fails to teach or suggest a detecting unit detecting a plurality of coordinates, input from a coordinate detector as recited in claims 61 and 62.

Referring to claims 63-66, Applicants herein incorporate the arguments presented supporting the patentability of claims 61 and 62. Referring to claims 67-75, McCall teaches a data encrypted touch screen that is used to input a PIN. The touch screen is coupled to an epoxy mass in which a touch screen controller, a system controller and a data encryption (DES) module are embedded. Thus, McCall does not teach, nor remotely suggest; using a specifying member that

specifies a plurality of discontinuous different coordinates. McCall displays a ten-key on the touch screen, and does not use the specifying member as recited in claims 67, 70, and 73 that is independent of the touch screen.

On page 12 of the Office Action of the parent application, item numbered a(i), in the response to the arguments presented in our Amendment filed on July 18, 2000, the Examiner stated that with regard to claims 1, 13, and 30, the disclosure of McCall is directed to a touch screen. A user may use his or her finger to specify a plurality of discontinuous coordinates by simply typing. Thus, the Examiner finds that our argument that McCall does not disclose that data is input by a member that specifies a plurality of discontinuous different coordinates unpersuasive. However, as disclosed in McCall, column 7, lines 27-29, "the user enters his PIN by depressing portions of the touch screen 12 corresponding to the **video keypad image 26a**." The video keypad image 26a, as illustrated in Fig. 2 of McCall, is not a specifying member as recited in claims 1, 13, and 30 that is used in combination with the touch screen 12. Rather, the video keypad image 26a is an image of a ten-key display on the touch screen 12.

On page 13 of the Office Action of the parent application, item numbered b(i), the Examiner asserted that the disclosure of Filliman is directed to a CRT screen and a light pen. A user may use his or her hand **to specify a plurality of discontinuous coordinates by simply pointing the pen**. It must be emphasized that, according to claims 1, 2, 13, 14, 30, and 31, the member is a specifying member, which **specifies** a plurality of discontinuous different coordinates. Applicants fail to understand how the user's hand can act as the specifying member. It is the

Applicants' position that the user's hand cannot act as the specifying member because the hand cannot include a plurality of discontinuous different coordinates, such as holes or openings. In view of the foregoing, it is respectfully requested that the prior art, individually or combined fail to teach or suggest all the claim limitations recited in claims 1-75.


CONCLUSION:

Accordingly, there being no other outstanding objections or rejections, it is respectfully submitted that the application is in condition for allowance, which action is earnestly solicited.

If any further fees are required in connection with the filing of this Amendment, please charge same to our Deposit Account No. 19-3935.

Respectfully submitted,
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By


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